*****Suspended*****

Trend Study 1-20-96

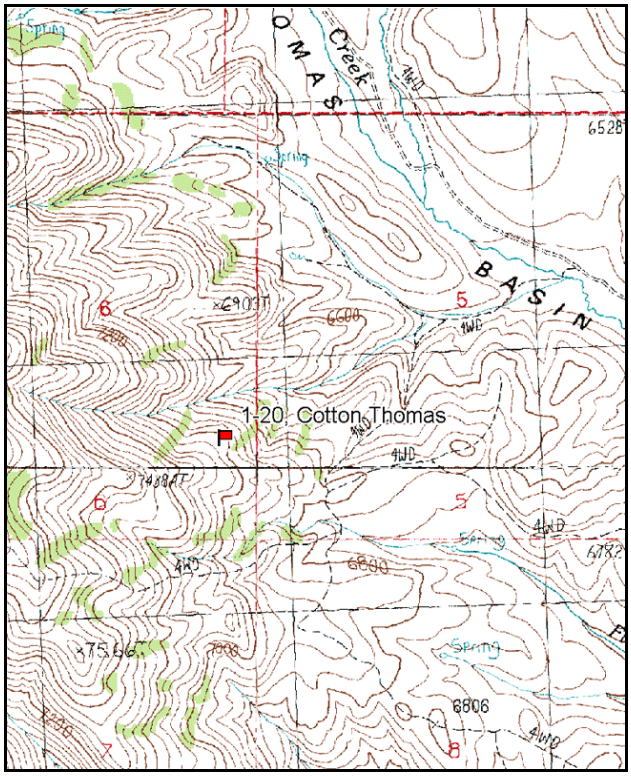
Study site name: Cotton Thomas . Vegetation type: Aspen .

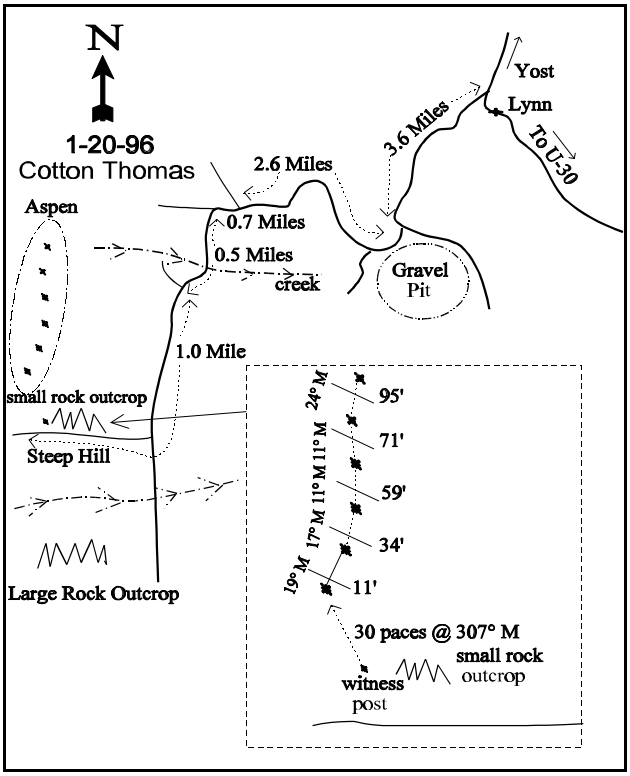
Compass bearing: frequency baseline 19 degrees magnetic.

Frequency belt placement: line 1 (11ft), line 2 (34ft), line 3 (59ft), line 4 (71ft), line 5 (95ft).

LOCATION DESCRIPTION

From Lynn, travel north approximately 1/4 a mile and take a left. Continue 3.6 miles and take a left just before the gravel pit. Continue 2.6 miles to a fork in the road, stay left and proceed 0.7 miles to another fork. Stay left again and proceed 0.5 miles (you will cross a creek and come to a fork). Stay left at the fork and proceed 1 mile going up a steep hill. The witness post will be on the right side of the road. From the witness post walk 30 paces at 307 degrees magnetic. The baseline doglegs down through the aspen. The 100-foot baseline runs 19 degrees magnetic, the 200-foot baseline runs 17 degrees magnetic, the 300-foot baseline runs 11 degrees magnetic, the 400-foot baseline runs 11 degrees magnetic, and the 500-hundred foot baseline runs 24 degrees magnetic.





Map Name: Kimball Creek

Diagrammatic Sketch

Township 13N , Range 17W , Section 6

UTM 4639651 N, 264733 E

DISCUSSION

Trend Study No. 1-20

***SUSPENDED** - This site was suspended in 2001 and will be reevaluated in 2006.

The Cotton Thomas trend study was established in 1996 and occurs on private land, placed in one of the few aspen clones in the Grouse Creek Mountains. The area lies west of the town of Lynn near the Cotton Thomas Basin. Aspen is a critical vegetation type for deer summer range. This site contains many dead and decadent trees. Most of the vigorous trees are of the younger age class. The majority of the aspen in the vicinity appear to be stunted in growth and possibly declining, most likely this is a marginal site for aspen with periods of prolonged drought. This aspen clone is in the bottom of a drainage that runs south to north. Aspect is to the north with a slope of 5% and elevation of about 7,000 feet. Cattle graze this area in the summer, but since this is private land, no numbers or season of use is known. Water and a salt lick is less than a mile away.

The soil is relatively deep, dark colored and probably deeper than the estimated effective rooting depth of 37 inches (see methods). Surface rock cover is scarce (<1%) and nearly absent in the profile. Vegetation and litter cover are abundant leaving little bare soil exposed (5%). Erosion is not a problem.

The browse component is not a critical part of deer summer range, but many are useful for providing some forage for wildlife and cattle. These include mountain big sagebrush, serviceberry, aspen, wax current, woods rose, and snowberry. Most browse appears not to be utilized. Mountain big sagebrush is found around the fringes of the aspen clone along with a few scattered serviceberry. Most of the other shrubs occur within the aspen canopy. Aspen provides the most browse forage. Many young and mature trees are still available for browsing. Point-quarter data estimates a density of 4,486 plants/acre. Average diameter is just under 1 inch. Larger mature trees account for only 5% of the population. Population estimates using shrub density strip data estimates a density of 3,240 plants/acre, 81% of which are young trees. Overhead canopy cover is about 36%. Utilization on available trees is light and percent decadency low at 2%. The number of dead trees is approximately 300 per acre.

The herbaceous understory is diverse and very abundant. Thirteen grasses and one sedge were encountered. The most abundant species include: Kentucky bluegrass, sheep fescue, and bog bluegrass. The dominance of Kentucky bluegrass provides evidence of past heavy livestock grazing on this area as it increases with heavy livestock use.

The forb composition is diverse with 41 species inventoried. Dominant species include: arrowleaf balsamroot, violet, dandelion, sweetroot, alpinebog swertia, and a milkvetch. Few forbs appeared to have been utilized at the time of reading, June 12, 1996, but livestock will likely graze later this summer.

1996 APPARENT TREND ASSESSMENT

Protective ground cover is abundant and well dispersed. Erosion is not a problem except on disturbed areas and cattle trails. The browse component is diverse and basically shows little use. Aspen is the key browse species. The stand is dense and mostly young with large mature trees comprising only about 5% of the population. The low rate of decadency and small number of dead trees would suggest that this stand is in good vigor. There are a number of other useful browse species present, but they all appear to show little use. Trend for browse appears stable for these species and improving for aspen. The herbaceous understory is diverse but the grass component is dominated by the increaser species, Kentucky bluegrass, which increases in response to heavy grazing. There was no sign of grazing yet this season, but livestock may graze here later in the summer. Forbs are represented by many common to the aspen type. Few appear to have been utilized.

HERBACEOUS TRENDS --
Herd unit 01 , Study no: 20

Type	Species	Nested Frequency '96	Quadrat Frequency '96	Average Cover % '96
G	Agropyron trachycaulum	66	23	.61
G	Bromus anomalus	32	9	.19
G	Bromus inermis	4	1	.03
G	Carex spp.	40	17	.55
G	Elymus cinereus	36	13	1.20
G	Festuca ovina	96	27	2.83
G	Koeleria cristata	2	1	.03
G	Poa spp.	14	4	.47
G	Poa leptocoma	102	30	1.58
G	Poa pratensis	92	22	4.89
G	Poa secunda	3	1	.00
G	Stipa columbiana	9	3	.06
G	Stipa lettermani	5	1	.00
Total for Annual Grasses		0	0	0
Total for Perennial Grasses		501	152	12.48
Total for Grasses		501	152	12.48
F	Achillea millefolium	12	7	.08
F	Agoseris glauca	52	24	.20
F	Antennaria rosea	10	3	.39
F	Arabis drummondi	14	6	.03
F	Artemisia ludoviciana	3	1	.03
F	Astragalus convallarius	20	7	.27
F	Aster spp.	43	19	.88
F	Astragalus spp.	69	20	1.00
F	Balsamorhiza sagittata	61	22	4.44
F	Borago officinalis	18	5	.07
F	Castilleja spp.	3	1	.00
F	Cirsium spp.	11	4	.19
F	Collomia linearis (a)	2	1	.00
F	Comandra pallida	8	5	.07
F	Collinsia parviflora (a)	96	26	.60
F	Crepis acuminata	16	6	.10
F	Cryptantha spp.	3	1	.00
F	Delphinium nuttallianum	17	6	.05

Type	Species	Nested Frequency '96	Quadrat Frequency '96	Average Cover % '96
F	Descurainia pinnata (a)	14	5	.10
F	Descurainia spp. (a)	14	6	.10
F	Galium spp.	130	40	.60
F	Geranium richardsonii	43	18	.60
F	Hackelia patens	1	1	.00
F	Helianthus spp.	37	13	.48
F	Hydrophyllum capitatum	22	11	.56
F	Labiatae	20	8	.43
F	Lupinus argenteus	8	4	.07
F	Mertensia oblongifolia	51	27	.51
F	Osmorhiza occidentalis	77	24	1.84
F	Penstemon spp.	5	3	.01
F	Phlox longifolia	16	5	.02
F	Polygonum douglasii (a)	5	2	.01
F	Senecio serra	37	19	1.12
F	Smilacina stellata	8	3	.33
F	Stellaria jamesiana	83	32	.40
F	Swertia perennis	42	20	1.58
F	Taraxacum officinale	142	51	1.92
F	Thalictrum fendleri	100	37	5.16
F	Unknown forb-annual (a)	7	4	.19
F	Veronica biloba (a)	53	16	1.24
F	Viguiera multiflora	2	1	.03
F	Viola spp.	260	76	3.89
Total for Annual Forbs		191	60	2.25
Total for Perennial Forbs		1444	530	27.46
Total for Forbs		1635	590	29.71

BROWSE TRENDS --
Herd unit 01 , Study no: 20

Type	Species	Strip Frequency '96	Average Cover % '96
B	Amelanchier alnifolia	2	.16
B	Artemisia tridentata vaseyana	32	2.90
B	Chrysothamnus viscidiflorus viscidiflorus	51	3.66
B	Eriogonum heracleoides	3	.06
B	Mahonia repens	10	.64
B	Populus tremuloides	66	10.64
B	Ribes cereum cereum	10	.21
B	Symphoricarpos oreophilus	96	17.82
Total for Browse		270	36.11

CANOPY COVER --
Herd unit 01 , Study no: 20

Species	Percent Cover '96
Populus tremuloides	36

Point-Quarter Tree Data

Trees per Acre '96	Average diameter (in) '96
4,486	0.8

BASIC COVER --
Herd unit 01 , Study no: 20

Cover Type	Nested Frequency '96	Average Cover % '96
Vegetation	481	64.94
Rock	89	.53
Pavement	132	.88
Litter	491	64.61
Bare Ground	177	4.94

SOIL ANALYSIS DATA --
Herd Unit 01, Study no: 20, Cotton Thomas

Effective rooting depth (in)	Temp °F (depth)	PH	%sand	%silt	%clay	%0M	PPM P	PPM K	dS/m
36.6	45.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

PELLET GROUP FREQUENCY --
Herd unit 01 , Study no: 20

Type	Quadrat Frequency '96
Rabbit	1
Deer	1
Cattle	3

BROWSE CHARACTERISTICS --
Herd unit 01 , Study no: 20

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Amelanchier alnifolia																		
Y	96	-	-	-	5	-	-	-	-	-	5	-	-	-	100			5
% Plants Showing '96				Moderate Use 00%			Heavy Use 00%				Poor Vigor 00%					%Change		
Total Plants/Acre (excluding Dead & Seedlings)													'96		100	Dec:		-
Artemisia tridentata vaseyana																		
S	96	1	-	-	1	-	-	-	-	-	2	-	-	-	40			2
Y	96	12	-	-	7	-	-	-	-	-	19	-	-	-	380			19
M	96	33	-	-	12	-	-	-	-	-	44	-	1	-	900	24	31	45
D	96	2	-	-	-	-	-	-	-	-	2	-	-	-	40			2
X	96	-	-	-	-	-	-	-	-	-	-	-	-	-	60			3
% Plants Showing '96				Moderate Use 00%			Heavy Use 00%				Poor Vigor 02%					%Change		
Total Plants/Acre (excluding Dead & Seedlings)													'96		1320	Dec:		3%
Chrysothamnus viscidiflorus viscidiflorus																		
S	96	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
Y	96	17	-	-	1	-	-	-	-	-	18	-	-	-	360			18
M	96	62	-	-	47	-	-	-	-	-	109	-	-	-	2180	17	23	109
D	96	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
% Plants Showing '96				Moderate Use 00%			Heavy Use 00%				Poor Vigor 00%					%Change		
Total Plants/Acre (excluding Dead & Seedlings)													'96		2560	Dec:		1%

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Eriogonum heracleoides																		
M	96	6	-	-	-	-	-	-	-	-	6	-	-	-	120	8	11	6
% Plants Showing '96				Moderate Use 00%			Heavy Use 00%				Poor Vigor 00%					%Change		
Total Plants/Acre (excluding Dead & Seedlings)													'96		120	Dec:		-
Mahonia repens																		
Y	96	-	-	-	4	-	-	-	-	-	4	-	-	-	80			4
M	96	7	-	-	46	-	-	-	-	-	53	-	-	-	1060	6	7	53
% Plants Showing '96				Moderate Use 00%			Heavy Use 00%				Poor Vigor 00%					%Change		
Total Plants/Acre (excluding Dead & Seedlings)													'96		1140	Dec:		-
Populus tremuloides																		
S	96	13	1	-	4	-	-	-	-	-	18	-	-	-	360			18
Y	96	117	-	-	14	-	-	-	-	-	131	-	-	-	2620			131
M	96	19	-	-	-	-	-	1	7	-	26	-	-	1	540	-	-	27
D	96	1	-	-	-	-	-	-	3	-	3	-	-	1	80			4
X	96	-	-	-	-	-	-	-	-	-	-	-	-	-	300			15
% Plants Showing '96				Moderate Use 00%			Heavy Use 00%				Poor Vigor 01%					%Change		
Total Plants/Acre (excluding Dead & Seedlings)													'96		3240	Dec:		2%
Ribes cereum cereum																		
Y	96	2	-	-	-	-	-	-	-	-	2	-	-	-	60			3
M	96	6	-	-	3	-	-	-	-	-	9	-	-	-	200	55	121	10
% Plants Showing '96				Moderate Use 00%			Heavy Use 00%				Poor Vigor 00%					%Change		
Total Plants/Acre (excluding Dead & Seedlings)													'96		260	Dec:		-
Rosa woodsii																		
S	96	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
% Plants Showing '96				Moderate Use 00%			Heavy Use 00%				Poor Vigor 00%					%Change		
Total Plants/Acre (excluding Dead & Seedlings)													'96		0	Dec:		-

AGE	YR	Form Class (No. of Plants) 1	2	3	4	5	6	7	8	9	Vigor Class 1	2	3	4	Plants Per Acre	Average (inches) Ht.	Cr.	Total
Symphoricarpos oreophilus																		
S	96	40	-	-	10	-	-	3	-	-	53	-	-	-	1060			53
Y	96	44	2	-	36	-	-	-	-	-	82	-	-	-	1640			82
M	96	257	-	-	59	-	-	-	-	-	316	-	-	-	6320	27	45	316
D	96	2	-	-	-	-	-	-	-	-	1	-	-	1	40			2
X	96	-	-	-	-	-	-	-	-	-	-	-	-	-	20			1

% Plants Showing	Moderate Use	Heavy Use	Poor Vigor	%Change
'96	.50%	00%	.25%	

Total Plants/Acre (excluding Dead & Seedlings)	'96	8000	Dec:	1%